

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Application Review

Issue Date: **TBD**

Region: Washington Regional Office
County: Craven
NC Facility ID: 2500158
Inspector's Name: Betsy Huddleston
Date of Last Inspection: 02/28/2017
Compliance Code: 3 / Compliance - inspection

<p style="text-align: center;">Facility Data</p> <p>Applicant (Facility's Name): Craven County Wood Energy, L.P.</p> <p>Facility Address: Craven County Wood Energy, L.P. 201 Executive Parkway New Bern, NC 28562</p> <p>SIC: 4911 / Electric Services NAICS: 221119 / Other Electric Power Generation</p> <p>Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V</p>	<p style="text-align: center;">Permit Applicability (this application only)</p> <p>SIP: N/A NSPS: N/A NESHAP: N/A PSD: N/A PSD Avoidance: N/A NC Toxics: 02D .1100 112(r): N/A Other: 02Q .0317 Avoidance of 02D .1111</p>
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Contact Data			Application Data
<p style="text-align: center;">Facility Contact</p> <p>Wesley Manspeaker Plant Engineer (252) 633-9525 201 Executive Parkway New Bern, NC 28562</p>	<p style="text-align: center;">Authorized Contact</p> <p>Robert Van Ells Plant Manager (252) 633-9525 201 Executive Parkway New Bern, NC 28562</p>	<p style="text-align: center;">Technical Contact</p> <p>Wesley Manspeaker Plant Engineer (252) 633-9525 201 Executive Parkway New Bern, NC 28562</p>	<p>Application Number: 2500158.17A Date Received: 09/26/2017 Application Type: Modification Application Schedule: TV-Sign-501(c)(2) Part II</p> <p style="text-align: center;">Existing Permit Data</p> <p>Existing Permit Number: 06419/T24 Existing Permit Issue Date: 09/26/2017 Existing Permit Expiration Date: 08/31/2022</p>

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2016	55.11	590.17	26.00	1236.91	76.71	17.63	4.75 [Styrene]
2015	39.51	839.07	26.96	1282.73	80.03	19.07	4.92 [Styrene]
2014	70.21	754.67	26.53	1262.31	21.43	16.50	4.84 [Styrene]
2013	144.81	637.62	26.64	1266.78	21.52	16.46	4.86 [Styrene]
2012	50.30	705.80	27.60	1313.23	22.28	17.07	5.04 [Styrene]

<p>Review Engineer: Jeff Twisdale</p> <p>Review Engineer's Signature: _____ Date: _____</p>	<p style="text-align: center;">Comments / Recommendations:</p> <p>Issue 06419/T25 Permit Issue Date: TBD Permit Expiration Date: 08/31/2022</p>
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I. Purpose of Application

Craven County Wood Energy, LP (CCWE) requested an increase of brooder house poultry litter fuel usage for boiler (ID No. ES5A) to 20 percent by weight (wt.%) or no more than 121,615 tons per year on a 12-month rolling average basis. CCWE also requested a federally-enforceable restriction of hazardous air pollutant (HAP) emissions from the facility on May 13, 2016 and was deemed initially complete, but additional technical information was received on August 29, 2016. This request was processed as a significant permit modification through the 15A NCAC 02Q .0501(c)(2) procedures since the changes did not contravene or conflict with a condition in the existing permit, and thereafter Permit 06419T23 was issued on September 27, 2016. As a result, CCWE filed this Title V Air Quality Permit Application on September 26, 2017 within 12 months after commencing operation (issuance of permit 06419T23 in this case) in accordance with General Condition NN.1. The permit shield described in General Condition R will apply now, and compliance certification as described in General Condition P is required. In the meanwhile, please note that the existing Title V renewal permit (06419T24) was issued on September 26, 2017 and will expire on August 31, 2022.

II. Facility Description

CCWE generates electricity from the combustion of wood chips and other biomass fuels. Steam is generated in a 666 million Btu per hour rated capacity spreader-stoker boiler. The turbine/generator has been producing approximately 46-48 megawatts (MW) of electricity for sale to Duke Energy Progress. An additional 3 MWs are generated for operation of the facility. The facility strives to operate 24 hours a day and 7 days a week.

III. History/Background/Application Chronology

September 26, 2017	Received application .17A on September 26, 2017.
December 12, 2017	Sent Draft permit to Title V Supervisor for review.
December 15, 2017	Sent Draft permit to CCWE and WaRO.

See IBEAM comprehensive report for more details.

IV. Permit Modifications/Changes and TVEE Discussion

The following table describes the modifications to the current permit.

Old Page(s)	New Page(s)	Condition/Item	Description of Change(s)
N/A	N/A	Cover Letter	Changed the issuance dates of the permit and the permit revision number to T25
N/A	N/A	Permit Cover	Changed issuance dates of the permit and permit revision number to T25
3	3	Section 1 - Emission Source Table	Removed footnote **** for the 02Q .0501(c)(2) modification of boiler (ES5A) that requires the Permittee to file a Title V Air Quality Permit Application on or before 12 months after commencing operation, and notes that the permit shield does not apply
12	11	2.1 B.8	Removed requirement for the Permittee to file an amended application following the procedures of Section 15A NCAC 02Q .0500 within one year from the date of permit issuance for modification of this existing source (ES5A) pursuant to 02Q .0504(d).
12	12	2.1 B.8	Updated numbering from B.9 to B.8 with removal of B.8 above.
13	13	2.1 B.9	Updated numbering from B.10 to B.9 with removal of B.8 above.
22	22	2.2 A.1.e.	Updated State-only Toxics reporting to a Semiannual basis.

The increase in poultry litter fuel usage in the boiler (ID No. ES5A) will not require any change to the operational parameters of the boiler while CCWE will continue to follow the same limits in their permit except for the increase to no more 121,615 tons per year of brooder house poultry litter on a 12-month rolling average basis fuel usage for the boiler. The fuel usage reporting for compliance with State-only Toxic Air Pollutant (TAP) rules will be updated to a semiannual basis from quarterly since the compliance margin with the optimized TAP limits is large. Also, the federally-enforceable restriction of HAP emissions from the facility requires monthly calculations and semiannual reporting to ensure HAP emissions remain less than 10 tons per year (tpy) of each individual HAP, and 25 tpy of all HAPs combined.

This modification does not change nor effect any of the emission source and control device descriptions in TVEE.

V. Regulatory Review

The facility is currently subject to the following regulations:

15A NCAC 02D .0503, Particulates from Fuel Burning Indirect Heat Exchangers
 15A NCAC 02D .0504, Particulates from Wood Burning Indirect Heat Exchangers
 15A NCAC 02D .0515, Particulates from Miscellaneous Industrial Processes
 15A NCAC 02D .0516, Sulfur Dioxide Emissions from Combustion Sources
 15A NCAC 02D .0519, Control of Nitrogen Dioxide and Nitrogen Oxide Emissions
 15A NCAC 02D .0521, Control of Visible Emissions
 15A NCAC 02D .0524, New Source Performance Standards (Subparts Db and IIII)
 15A NCAC 02D .0530, Prevention of Significant Deterioration
 15A NCAC 02D .0614, Compliance Assurance Monitoring
 15A NCAC 02D .1100, Control of Toxic Air Pollutants
 15A NCAC 02D .1111, Maximum Achievable Control Technology (Subparts ZZZZ and GACT 6J)
 15A NCAC 02D .1806, Control and Prohibition of Odorous Emissions
 15A NCAC 02Q .0400, Acid Rain Procedures
 15A NCAC 02Q .0317, Avoidance of 15A NCAC 02D .1111 MACT Subpart DDDDDD
 40 CFR Part 97, Subpart AAAAA, BBBB, and CCCCC, Cross State Air Pollution Rule

A regulatory review for these existing requirements will not be included in this document. Continued compliance with these requirements is expected. The regulation of note for this permit modification is 15A NCAC 02Q .0317 Avoidance Limitation to avoid being major for HAPs (see MACT section below for further discussion). Only one of the above regulations (15A NCAC 02D .1100, Control of Toxic Air Pollutants) was directly affected by this modification with increase of poultry litter fuel usage (see Facility-wide Air Toxics section below for further discussion).

VI. NSPS, NESHAPS/MACT, PSD, 112(r), CAM

NSPS – The facility is currently subject to New Source Performance Standards (NSPS) for the boiler (Subpart Db) and for the emergency engines (Subpart IIII). This permit modification does not affect that status since there are no physical changes to the boiler nor was there a change in the method of operation of the boiler to use this alternative fuel (the existing facility was designed to accommodate the raw material mixture under the construction specifications prior to this change).

A modification means any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) into the atmosphere not previously emitted. Note that routine maintenance, repair and replacement of equipment components; an increase in the hours of operation; and use of an alternate fuel or raw material if the source was capable of using the alternative fuel or material prior to the date that the individual NSPS subpart became applicable is not considered a modification.

NESHAP/MACT – The facility is classified as a Section 112 minor facility and is currently subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) or MACT for the boiler (GACT Subpart 6J) and for the emergency engines (GACT Subpart ZZZZ). The permit modification does not affect that status since the HAP emissions are limited to less than the major source thresholds.

PSD – The facility is classified as a PSD major source for volatile organic compound, carbon monoxide, nitrogen oxides and particulate matter emissions. This permit modification does not affect this status since there are no physical changes to the boiler nor was there a change in the method of operation of the boiler to use this alternative fuel (the existing facility was designed to accommodate the raw material mixture under the construction specifications prior to this change).

112(r) – The facility is not currently subject to the 112(r) “Prevention of Accidental Releases” requirements because no chemicals are stored in amounts greater than the applicability threshold of the regulation. This permit modification does not affect this status.

CAM – 40 CFR 64 requires that a continuous compliance assurance monitoring plan be developed for all equipment located at a major facility, that have pre-controlled emissions above the major source threshold, and use a control device to meet an applicable standard. This permit modification does not affect this status.

CSAPR - CSAPR (specifically, 40 CFR Part 97, Subparts AAAAA, BBBB, and CCCCC) was originally scheduled to take effect on January 1, 2012. This rule was planned as a replacement for CAIR. However, CSAPR was challenged in court and initially vacated by the DC Circuit Court. Legal issues were finally resolved in April 2014, when the US Supreme Court reversed that decision. Because the regulation was delayed by court proceedings, the effective date of the rule was moved to January 1, 2015.

Under this rule, the boiler at the facility is considered a "large electric generating unit", per 40 CFR 52.34. This rule and all requirements thereof are considered Federal-enforceable only. Compliance will be determined by the US EPA, not NC DAQ. A reference to this rule was previously added to the permit. This permit modification does not affect this status.

VII. Facility-Wide Air Toxics

The Permittee is subject to 15A NCAC 02D .1100 - Control of Toxic Air Pollutants (TAPs). CCWE provided a modeling demonstration for NC TAPs emitted from its biomass-fired boiler in 1993. CCWE has demonstrated that emissions of toxic air pollutants (TAPs) on a facility-wide basis were in compliance with 15A NCAC 02D .1100 "Control of Toxic Air Pollutants (TAPs)" as described in the permit. That demonstration was optimized to 95% of their Acceptable Ambient Levels (AAL), and monitoring/recordkeeping/reporting were placed in the permit to ensure compliance.

The emissions of hydrogen chloride and chlorine emissions are expected to increase with the poultry litter fuel percentage increase; however, since the previously permitted emissions limits were optimized up to 95% of the AAL, emissions are expected to remain below the optimized limits. Therefore, the DAQ does not believe that this change to the facility will cause an unacceptable health risk to human health.

Since the boiler is NESHAP Subpart 6J applicable, the facility does not have to demonstrate compliance with the North Carolina Toxics AALs per 15A NCAC 02Q .0702(a)(27). DAQ has the responsibility of evaluating compliance when deemed necessary. The facility has not requested removal of the TAP limits and does not want to remove the TAP limits at this time (see email dated December 4, 2017 from Mr. Wes Manspeaker, Plant Engineer for CCWE).

According to DAQ's Washington Regional Office (WaRO) inspection report, CCWE tracks the different fuel use (weight and weight % basis) daily and monthly-to-date. The monthly weights are based upon scale weights. CCWE maintains the railroad tie and poultry litter certifications on file, and the suppliers send quarterly certifications. CCWE was previously required to submit a quarterly summary report of monitoring and recordkeeping activities by rule; however, semiannual reporting of these activities should be frequent enough demonstrate compliance with these optimized TAP limits. The report contains copies of the most recent railroad tie and poultry litter vendor certifications, and the monthly fuel usages with the different fuel weight percentages.

Since one of CCWE's past quarterly toxics report contained poultry litter weight percentages that were close to their 10% by weight limit, CCWE wanted to increase that poultry litter limit to 20% by weight of fuel throughput resulting in a limit of no more than 121,615 tons per year, brooder house poultry litter, on a 12-month rolling average basis.

Continued compliance with current optimized toxics limits is expected.

VIII. Compliance Status

The facility was last inspected by Mrs. Betsy Huddleston of the WaRO on February 28, 2017. At that time of the inspection, the facility appeared to be in compliance with the applicable air quality regulations.

IX. Public Notice/EPA and Affected State(s) Review

Public notice and EPA review are required for this modification.

X. Conclusions, Comments, and Recommendations

A professional engineer's seal was not required for this modification.

A consistency determination was not required for this modification.

CCWE and WaRO were presented with a DRAFT permit for their review on December 15, 2017.